STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

Ref: wup863.sub

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

December 17, 2008
Honolulu, Oahu

Covanta Honolulu Resource Recovery Venture
APPLICATION FOR A WATER USE PERMIT
Facility Maintenance Wells 1 and 2 (Well Nos. 1806-09 and -10), TMK (1) 9-1-026:030
WUP No. 863, Modify Existing (Industrial) Use to 3.34 mgd
Malakole Ground Water Management Area, Oahu

APPLICANT:

Covanta Honolulu Resource Recovery Venture
91-174 Hanua Street
Kapolei, HI 96707

LANDOWNER:

City & County of Honolulu
Department of Environmental Services
1000 Uluohia Street, Suite 308
Kapolei, HI 96707

SUMMARY OF REQUEST:

The applicant is requesting to modify its existing water use permit to increase its use of brackish water to 3.34 million gallons per day (mgd) from two existing wells for industrial cooling at the H-POWER facility in Kapolei. The existing permit allows up to 2.26 MGD to be used for the same purpose. A third boiler is being added to increase the solid waste processing capacity from 610,000 tons per year to 910,000 tons/yr. This expansion will result in a need for an additional supply of 1.08 MGD of water for industrial cooling.

LOCATION MAP: See Exhibit 1

BACKGROUND:

On October 11, 1985, the Board of Land and Natural Resources (BLNR) approved the first water use permit for the facility (WUP No. 62). WUP No. 62 allowed up to 2.26 mgd of brackish water to be used at the facility as makeup water for the cooling towers. H-POWER's application also states that the

well water is used for quenching fly ash and for washdown procedures at the facility. Two wells, Well Nos. 1806-09 and -10, were constructed in the Ewa caprock aquifer 1986 for the water supply. One well (Well No. 1806-09) serves as the principal source and the second well is maintained as a back-up source.

WUP No. 62 was approved by the BLNR under Chapter 177 HRS. In accordance with Chapter 177 HRS, WUP No. 62 was approved for a term of 20 years from the date of issuance, subject to review every 5 years. Thus, the expiration date of WUP No. 62 was October 20, 2005.

Chapter 177 HRS was repealed on July 1, 1989, and replaced by the State Water Code, Chapter 174C, HRS. Under Chapter 174C HRS, certified uses and permitted water uses approved by the BLNR are recognized by the Commission on Water Resource Management (Commission) as permanent water use permits. Any permit approved by the BLNR, therefore, would remain in effect until the Commission conducts a compliance review, as provided by §174C-56 HRS:

> *"At least once every twenty years, the commission shall conduct a comprehensive study of all permits issued under this chapter to determine whether the conditions on such permits are being complied with. The commission shall prepare a formal report to the legislature which shall be available to the public."*

Mr. Glen Kashiwabara, of H-POWER, contacted the Commission's staff on October 20, 2002 to inquire about the process for renewing the permit. Staff advised Mr. Kashiwabara that a new water use permit application should be submitted for approval by the Commission. Staff also explained that, in accordance with the State Water Code, permits approved by the Commission are permanent and only subject to review. No application was filed at that time.

Subsequently, on January 27, 2005, Mr. Kashiwabara contacted staff again to inquire about the status of WUP No. 62. In a letter, dated January 31, 2005, Deputy Director Yvonne Izu responded that the Chapter 174C HRS provided that water use permits approved by the BLNR are recognized by the Commission as permanent. This letter also explained that the Commission was planning to conduct the required 20-year review of water use permits, as required by §174C-56 HRS, and that WUP No. 62 would remain active until the review was completed, unless a prior modification or revocation action was initiated by the Commission or the permittee.

On October 8, 2008, the Commission received a completed water use permit application from Covanta Honolulu Resource Recovery Venture (CHRRV) to modify H-POWER's existing WUP No. 62. The application seeks to increase the permitted quantity of brackish (non-potable) water use at the H-POWER facility from 2.26 mgd up to 3.34 mgd. CHRRV has been retained by the City and County of Honolulu, Department of Environmental Services to expand the facility. AMEC Earth & Environmental, Inc. was retained to support the environmental permitting processes, including the modification of the existing water use permit. The expansion will add a third municipal solid waste combustor unit (called a refuse-derived fuel, or "RDF," combustor) at the plant.

Additional information regarding the source, use, and notifications is provided in Attachment A.

ANALYSIS/ISSUES:

Section 174C-49(a) of the State Water Code establishes seven criteria that must be met to obtain a water use permit. An analysis of the proposed permit in relation to these criteria follows.

(1) Water availability

H-POWER currently uses two wells, both constructed in 1986, to supply water for industrial cooling (see Attachment A). The wells are located within the Malakole Aquifer System Area of the Ewa Caprock Aquifer Sector Area. Brackish water extracted from the caprock aquifer is used and, if approved by the Commission, will continue to be used principally as make-up water for the cooling tower. The two existing wells are capable of producing the requested quantity of water without modification.

The Commission has adopted a policy to manage the Ewa caprock aquifer to be a non-potable water resource. The Ewa Caprock Aquifer Sector Area is managed differently than other aquifer systems on Oahu. In lieu of an aggregate sustainable yield figure, water developed in irrigation wells are required to have chloride concentrations under 1,000 milligrams per liter (mg/l). This standard corresponds to the generally-accepted upper limit of irrigation-quality water. Minimum chloride standards are not established to ensure that the brackish portions of the aquifer, which provide irrigation-quality water, are not impacted by industrial wells. H-POWER's use is solely for an industrial purpose that can tolerate higher chloride concentrations.

In 1997, the Commission adopted the 1,000 mg/l chloride limit for irrigation wells. At that time, the Commission also directed staff to work with the industrial users in the Ewa Plain to propose a minimum chloride standard for industrial wells to ensure that mostly salt water or near salt water was being used for industrial purposes and would have little effect on the quality portions of the aquifer suitable for irrigation uses.

Staff sent a letter to Ewa caprock water users notifying them of the Commission's action, and requesting industrial users to propose a reasonable minimum chloride standard for industrial wells based on historical chloride data and actual need. In response, industrial users in the Malakole Aquifer System Area organized to form the Malakole Users' Group, comprised of six business entities located and conducting business within Campbell Industrial Park (AES Barbers Point, Inc.; Chevron Products Company; City and County of Honolulu, H-Power Plant/Honolulu Resource Recovery Venture; Grace Pacific Corporation; Hawaiian Electric Company, Inc.; and Kalaeloa Partners, L.P.).

The Malakole Users' Group provided historical chloride data for their wells, and expressed concern about the setting of individual minimum chloride standards because chloride levels could change over time due to hydrologic factors beyond their control. They proposed that they be exempt from individual well chloride limits and instead all be subject to a 1,000 mg/l minimum chloride level, which would not satisfy the Commission's intent and purpose for the minimum standard. Staff met with representatives of the users' group and sent a letter

informing their designated representative that staff was still reviewing the situation and considering the information that was provided by the group. To date there is still no industrial chloride standard within the Malakole Aquifer System. Unlike irrigation, industrial users in the Malakole System Area really don't have chloride limitations. In the event chloride concentrations in the industrial area become an issue, staff will resume discussions of setting a chlorides standard.

Staff established a monitoring network of Ewa caprock wells and collected quarterly water level and chloride data from 1994 to 2001. The network initially included some Malakole area wells (i.e., Chevron and Hawaii Raceway Park), but those wells were later dropped and more focus placed on irrigation wells in the Kapolei and Puuloa Aquifer System Areas as a consequence of development pressures at the eastern end of the Ewa Plain. Presently, staff is not aware of any well interference or concerns about chloride concentrations in ground water from the Malakole Aquifer System Area.

In establishing a sustainable capacity for irrigation wells, the Commission found the following:

1. The Ewa caprock aquifer is a thin basal aquifer vulnerable to salinity intrusion (most salinity profiles indicate sharp salinity changes). Therefore, the quantity of developable water supply depends entirely on well location.

2. Because the caprock aquifer lens is thin, salinity intrusion is a significant limitation, particularly for wells in the makai portion of the aquifer. If ground water withdrawal from the aquifer occurs primarily in mauka areas, the developable supply may be greater.

3. The aquifer's main source of recharge is ground water inflow (leakage) from the basalt aquifer at the inland margin of the interbedded coralline rock formations that comprise the Ewa caprock aquifer system. The amount of leakage cannot easily be quantified and is, in part, dependent upon the water levels in the basal aquifer.

4. Sustainable yield is a theoretical number that assumes optimal well placement in an aquifer. The spatial distribution of chloride in the caprock aquifer, however, doesn't fit the notion of managing ground water allocations and withdrawals on the basis of a single sustainable yield number.

6. The magnitude of tidal influences are equal to or greater than pumping influences and thus makes water level monitoring as a means for estimating sustainable yield and regulating water use extremely difficult.

7. The caprock aquifer is para-basal inland, which means that the bottom of the aquifer is truncated by the low-permeability clay layer that underlies the upper limestone aquifer.

8. The hydrology of the Ewa caprock aquifer is sufficiently unique to warrant consideration of alternative regulatory considerations. This is particularly appropriate given the change in irrigation returns and availability of reclaimed water to supplement the naturally-occurring recharge.

The Commission directed that a minimum chloride standard be established for industrial use wells to ensure that water withdrawals will not adversely impact irrigation wells operating within the Ewa caprock aquifer. Exhibit 2 lists the existing caprock wells within the Malakole Aquifer System Area and includes information the use or status of each well. Exhibit 3 shows the wells that are within a 1-mile radius of the H-POWER wells. There are no irrigation wells within 1 mile of H-POWER's wells or within the Malakole Aquifer System Area.

In addition to H-POWER's two wells, used solely for industrial cooling water supply, the wells owned and operated by Tesoro, Kalaeloa, AES Hawaii, Inc., Hawaiian Electric Company, and Chevron are used for industrial or fire protection purposes or are maintained as back-up industrial wells (see Exhibit 2). Chloride data from these wells range from 1,250 mg/l (Kalaeloa, Well No. 1805-04) up to 20,500 mg/l (AES Hawaii, Well No. 1806-11). The remaining wells in the area are either permanently sealed, unused, or maintained as observation or monitoring wells for environmental and/or remediation projects.

Exhibit 4 shows the active water use permits for the Malakole Aquifer System Area, and includes the average pumpage reported to the Commission (a 12-month moving average, or "12-MAV"). The pumpage reported for the H-POWER facility for the past 4 years is included as Exhibit 5. H-POWER's water use reporting records show that its actual use from October 2007 through October 2008 was approximately 63 percent of the quantity permitted by WUP No. 62. Usage in 2005 and 2006 was slightly less (see Exhibit 5).

A review of AES Hawaii's reported water use (through December 2007) shows the 12-MAV to be 11.309 mgd pumped from wells located approximately 500 feet south of the H-POWER wells. This is an order of magnitude higher that pumpage reported by H-POWER (1.428 mgd), Kalaeloa (1.342 mgd), and Chevron (2.192 mgd at the acid plant and 0.977 mgd at the liquefied petroleum gas storage facility).

Pump test data show that the caprock aquifer is capable of producing large quantities of brackish water without causing much drawdown of the water table. Based on this information and usage records, it is unlikely therefore that increasing the quantity of water pumped at the H-POWER facility will interfere with other industrial uses in the area.

Staff finds water is available to meet the proposed use for the following reasons:

- H-POWER's water use does not rely on a certain chloride quality of the well water.

- The aquifer is a thin basal aquifer, and the salinity impacts of withdrawals at an individual well site will likely be confined to the immediate vicinity of the pumping well.

- There are no irrigation wells in the area.

- Based on the hydraulic properties of the caprock aquifer and an assessment of other industrial uses in the vicinity of the H-POWER facility, it is unlikely that the proposed withdrawal of up to 3.34 mgd will interfere with other industrial users in the area.

- No minimum chloride limit has been established for industrial wells.

(2) Reasonable-beneficial

Section 174C-3 HRS defines "reasonable-beneficial use" is

> *"...the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest."*

I. Purpose of Use

The applicant is requesting approval to increase its permitted quantity of water use from 2.26 mgd up to 3.34 mgd, to accommodate an increased need for industrial cooling water. The applicant states that the non-potable water is also used for quenching ash or for washdown procedures at the facility. The source of water is non-potable, brackish ground water drawn from the Ewa caprock aquifer.

A third boiler is being added to increase the solid waste processing capacity from 610,000 tons per year to 910,000 tons/yr. This expansion will result in a need for an additional supply of 1.08 MGD of water for industrial cooling. The Declaration of Policy section, §174C-2(c) HRS, states that the Water Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for various purposes including industrial uses.

II. Quantity Justification

The applicant is requesting a total of 3.34 mgd to provide a supply of make-up water for the cooling towers at the H-POWER facility, after the facility expansion has been completed. The facility currently holds an active water use permit that allows use of up to 2.26 mgd of non-potable brackish water for this purpose.

The H-POWER facility has operated for 18 years, using a refuse-derived fuel technology to produce energy from municipal solid waste. It currently operates with two boilers. The H-

POWER expansion project consists of adding a third municipal solid waste combustor unit to the existing two refuse-derived fuel combustors. This expansion will require an increase in flow volume from the two existing wells. No new wells will be constructed.

The quantity of water requested is based on an engineering analysis and design requirements for the new boiler and an assessment of past water use. The requested quantity takes into account the amount of water that CHRRV estimates is available in the existing water use allocation that can be used to supply the need for the new boiler, in addition to the additional 1.08 mgd requested to modify the existing permit.

III. Efficiency of Use

The applicant reinjects water that has been used in the cooling towers. The towers are designed and manufactured to prevent wasting water during operation.

IV. Analysis of Practical Alternatives

The applicant has provided an assessment of five alternatives to the proposed use of brackish water for its cooling water needs. Non-potable water is currently used and will continue to be used, if approved by the Commission, solely as make-up water for the cooling tower. Brackish water from the Ewa caprock aquifer is the current source of cooling water used at the site, supplied by the two existing wells, under an existing water use permit. These wells have been in service for over 15 years and are capable of producing the increased volume of water the applicant is requesting without modification.

Potable water is not required for the industrial processes at the H-POWER facility, and therefore not evaluated further with respect to the subject application. The applicant's analysis of alternative non-potable sources follows.

1. *Municipal Sources*
   No municipal sources of non-potable water are available to meet the volume demand at the H-POWER facility. The only municipal source of water currently available to the facility is potable water, which is not required for the intended use.

2. *Wastewater Reuse (Reclaimed Water)*
   Reclaimed wastewater would not provide the volume of water required for the H-POWER plant operation. Additionally, the infrastructure needed to deliver reclaimed water to the facility is not currently in place, making this alternative impractical.

3. *Ditch System*
   Water from a ditch system is not a feasible alternative to provide non-potable water to the Campbell Industrial Park, where the H-POWER facility is located. The infrastructure needed to deliver ditch water to the facility is not currently in place, making this alternative impractical.

4. *Desalinization*
   Desalinized water is not required for H-POWER's water uses. Water from the caprock aquifer, which at the H-POWER facility has chloride concentrations in the range of 18,000 mg/l, is suitable for use as make-up water for the cooling towers. (Water with chloride concentrations above 17,000 mg/l is considered to be salt water.)

5. *Surface Water*
   There are no surface water basins or sources available in or near the Campbell Industrial Park. If surface water were available, the water would be of better quality than what is required for industrial cooling water at the H-POWER facility.

The 2000 Legislature amended the Water Code to include a new section, §174C-51.5, HRS that provides the Commission with the authority to require dual line (potable and non-potable) water supply systems in new industrial and commercial developments located in designated water management areas. In this case, the application is to modify an existing water user permit to increase the quantity of non-potable water use at the facility; it is not a new development project. Therefore, this provision does not apply to this facility.

The consistency of this application with other beneficial-reasonable use criteria will be discussed in the following sections.

(3) Interference with other existing legal uses

None. A discussion of other ground water users in the vicinity of the H-POWER facility and within the Malakole Aquifer System Area is provided above in Section 1, Water Availability.

(4) Public interest

In its application, CHHRV asserts that its current and expanded use of brackish water for industrial cooling is in the public interest for several reasons, all centered on the nature of the facility's operations, and how the facility benefits the local community and the state of Hawaii. CHHRV explains that the expansion project will: (1) increase the energy generated from the H-POWER facility's waste disposal operations; (2) increase the energy and recyclable metals recovered annually; and (3) further reduce the need for landfilling of municipal solid waste on Oahu. The applicant asserts that these factors are all in the best interests of the public.

Additionally, the applicant has explained that the environmental characteristics of the expansion project will comply with federal, state, and local permits and programs designed for the protection and stewardship of environmental resources. The City and County of Honolulu is requiring a full assessment of potential environmental consequences of facility expansion be prepared for community review and comment. This is to include assessment of the existing natural and human environment, including potential impacts and mitigation measures, as well as an assessment of how the project conforms to federal, state, and local planning policies, and a sustainability analysis.

Other aspects of the facility expansion raised by the applicant are as follows:

- H-POWER currently employs 145 island residents, with a $10 million annual payroll. The expansion project is expected to result in 300 construction jobs and several additional operational positions.
- Each year H-POWER spends more than $8.5 million locally on equipment and services from Hawaii vendors. The expansion project is expected to result in significant local spending during the construction period.
- The existing H-POWER facility has been shown to be a cost-effective and practical solution for municipal solid waste management on Oahu. The expansion will provide capacity for handling a growing demand for waste management services.
- H-POWER has been producing energy from solid waste combustion since it started operation in 1990. It produces 5 percent of the power used on the island of Oahu, which otherwise would have been produced from combustion of petroleum-based fuels.

No public comments or objections were received on this application during the comment period.

(5) State and county general plans and land use designations

The facility is located within the State Land Use Urban District. Activities or uses with the Urban District are under the jurisdiction of the City and County of Honolulu, Department of Planning and Permitting. The current zoning for the parcel is I-2 Intensive Industrial District and the use is permitted as a public use. Further, the City and County of Honolulu, Department of Planning and Permitting confirmed during its review of the subject application that the public use of the H-POWER site is consistent with the Ewa Development Plan and the Public Review Draft of the Ewa Development Plan.

(6) County land use plans and policies

This industrial use is consistent with County land use plans and policies. (See discussion under Section 5, above).

(7) Interference with Hawaiian home lands rights

The applicant asserts that the proposed increased use of water will not interfere with Section 221 of the Hawaiian Homes Commission Act. The water is currently being used for industrial purposes, and is not suitable for domestic, agriculture or livestock uses because of the high chloride concentrations.

All permits are subject to the prior rights of Hawaiian home lands. The Department of Hawaiian Home Lands (DHHL) and the Office of Hawaiian Affairs (OHA) were provided a

copy of this application for review. No comments or objections were received from DHHL or OHA regarding this application.

Further, standard conditions 3.g., 6., and 9.f. of all water use permits notify permittees that the Commission's approval of their permits is subject to the requirements of the Hawaiian Homes Commission Act, as amended, and cannot interfere with Hawaiian home land rights, in accordance with §174C-101(a) HRS.

With these provisions and the location and nature of operations at the H-POWER facility, the proposed increased water use is not expected to interfere with Hawaiian home land rights.

OTHER

In addition to requiring applicants to respond to the seven criteria required by statute, as discussed in the preceding section, the ground water use permit application was recently updated to require applicants to explain how the proposed new use(s) of water will not interfere with any other legal use(s) of water.

CHRRV's application states that the proposed increase of use will not interfere with any existing legal uses. This statement is based on the fact that the Commission has already approved use of up to 2.26 mgd of water from two existing wells within the Malakole Aquifer System Area, the aquifer is used for other industrial purposes including injection of effluents for disposal, and there are no individual household uses in the area. Finally, as noted in staff's assessment of water availability, no irrigation wells would be affected and it is unlikely that other industrial users in the area will be affected.

RECOMMENDATION:

Staff recommends that the Commission approve issuance of water use permit no. 863 to Covanta Honolulu Resource Recovery Venture for the reasonable and beneficial use of 3.34 million gallons per day of brackish water from the Facility Maintenance Wells 1 and 2 (Well Nos. 1806-09 and -10) for industrial use at the H-POWER facility. Approval should be subject to the standard water use permit conditions listed in Attachment B and the following special conditions.

1. Should an alternate permanent source of water be found for this use, then the Commission reserves the right to revoke this permit, after a hearing.

2. In the event that the tax map key at the location of the water use is changed, the permittee shall notify the Commission in writing of the tax map key change within thirty (30) days after the permittee receives notice of the tax map key change.

3. Standard Condition 16 is waived for salt water wells.

Respectfully submitted,

KEN C. KAWAHARA, P.E.
Deputy Director

Attachment(s): A (Water Use Permit Detailed Information)
B (Water Use Permit Standard Conditions)

Exhibit(s): 1 (Location Map)
2 (Nearby Wells and Water Uses)
3 (Map of wells near H-POWER facility)
4 (Active Water Use Permits in the Malakole Aquifer System Area)
5 (12-MAV for H-POWER, 1/1/2004-9/30/2008)

APPROVED FOR SUBMITTAL:

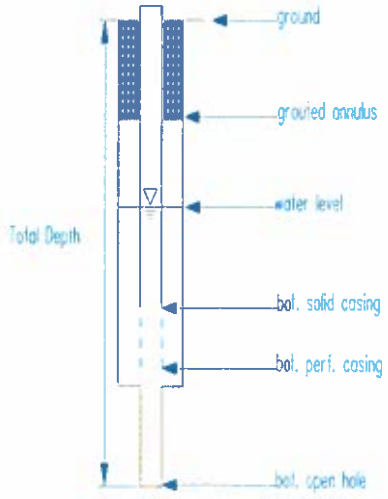
LAURA H. THIELEN
Chairperson

WATER USE PERMIT DETAILED INFORMATION

Source Information

AQUIFER	Malakole System, Ewa Caprock Sector, Oahu
Sustainable Yield:	N/A
Existing Water Use Permits:	43.211 mgd
Available Allocation:	N/A
Total other pending applications:	0 mgd
This application:	3.34 mgd

WELL DATA	Facility Maintenance Wells 1 and 2 (Well Nos. 1806-09 and -10)
Location:	900 ft west of Hanua Street, Oahu, TMK: (1) 9-1-026:030
Year Drilled:	1986
Casing Diameter:	18 in.
Elevations (datum = mean seal level elevation, 0.0 ft)	
Water Level:	1806-09, 0.3 ft // 1806-10, 0.2 ft
Ground (same in both wells):	12 ft
Bottom of Solid Casing (same in both wells)	-38 ft
Bottom of Perforated (same in both wells):	-88 ft
Bottom of Open Hole:	1806-09, -91 ft // 1806-10, -93 ft
Total Depth:	1806-09, 103 ft // 1806-10, 105 ft
Grouted Annulus Depth (same in both wells):	47 ft
Pump Capacity (same in both wells)	1,450 gpm



Use Information

Quantity Requested:	3.34 mgd
Existing Type of Water Use:	Industrial
Place of Water Use:	TMK: (1) 9-1-026:030

Reported Industrial Water Usage (12-MAV)

H-POWER (through 10/31/2008)	1.428 mgd
AES Hawaii (2007)	11.309 mgd
Kalaeloa (2007)	1.342 mgd
Chevron, Acid Plant (2007)	2.192 mgd
Chevron, LPG Storage Facility (2007)	0.977 mgd
Chevron, Boiler Plant (2007)	0.0006 mgd

Malakole Aquifer System	
Current 12-MAV Withdrawal (See Exhibit 4):	17.25 mgd

Nearby Surrounding Wells and Other Registered Ground Water Use

There are 21 other industrial or backup wells within 1 mile of H-POWER's wells (see Exhibits 2 and 3). The total permitted quantity of water from the Malakole Aquifer System Area is 43.211 mgd (see Exhibit 4). The reported water use from wells within the Malakole Aquifer System is 17.25 mgd (Exhibit 4).

The water use permit for Grace Pacific was approved for 2 mgd and is included in the list of water use permits issued for the Malakole Aquifer System Area; however, these wells were abandoned in 2005.

Other active water use permits in the management area have been issued to Tesoro Hawaii Corp., VIP Sanitation, Hawaiian Electric Company (HECO), and the State DLNR, and to Chevron for fire protection. Water usage data are not available for these wells at this time. The only significant use approved among these permit holders is 14.4 mgd for HECO, which is on the parcel adjacent to the H-POWER facility.

It is not expected that the proposed increase in water withdrawals from the H-POWER wells will impact any of these users.

Public Notice

In accordance with §13-171-17, HAR, a public notice was published in the *Honolulu Star Bulletin* on October 29, 2008 and November 5, 2008, and a copy of the notice was sent to Mayor Hannemann's office. Copies of the completed application were sent to the Honolulu Board of Water Supply, the City and County of Honolulu Department of Planning and

Permitting, the state Departments of Health and Department of Hawaiian Home Lands, various divisions of the Department of Land and Natural Resources, the Land Use Commission, and the Office of Hawaiian Affairs. Comments and objections to the proposed permit were to be filed with the Commission by November 20, 2008. Comments were received from some of the review agencies and are addressed in the analysis of the application. No comments were received from the general public or special interest groups.

Objections

The public notice specifies that an objector meet the following requirements: (1) state property or other interest in the matter; (2) set forth questions of procedure, fact, law, or policy, to which objections are taken; (3) state all grounds for objections to the proposed permits, (4) provide a copy of the objection letter(s) to the applicant, and (5) submit objections meeting the previous requirements to the Commission by November 20, 2008.

No objections were filed.

STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable-beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:

   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.

5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:

   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its **December 17, 2008** meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:

   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
   d. require efficiency of water uses;
   e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

   Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) **must** be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a **monthly** basis (attached).

11. This permit shall be subject to the Commission's periodic review for the **Malakole** Aquifer System Area's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the **Malakole** Aquifer System Area, or relevant modified aquifer(s), is reduced.

12. A permit may be transferred, in whole or in part, from the permittee to another, if:

    a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
    b. The Commission is informed of the transfer within ninety days.

    Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer, which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

13. The use(s) authorized by law and by this permit do not constitute ownership rights.

14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances that will affect the permittee's water use.

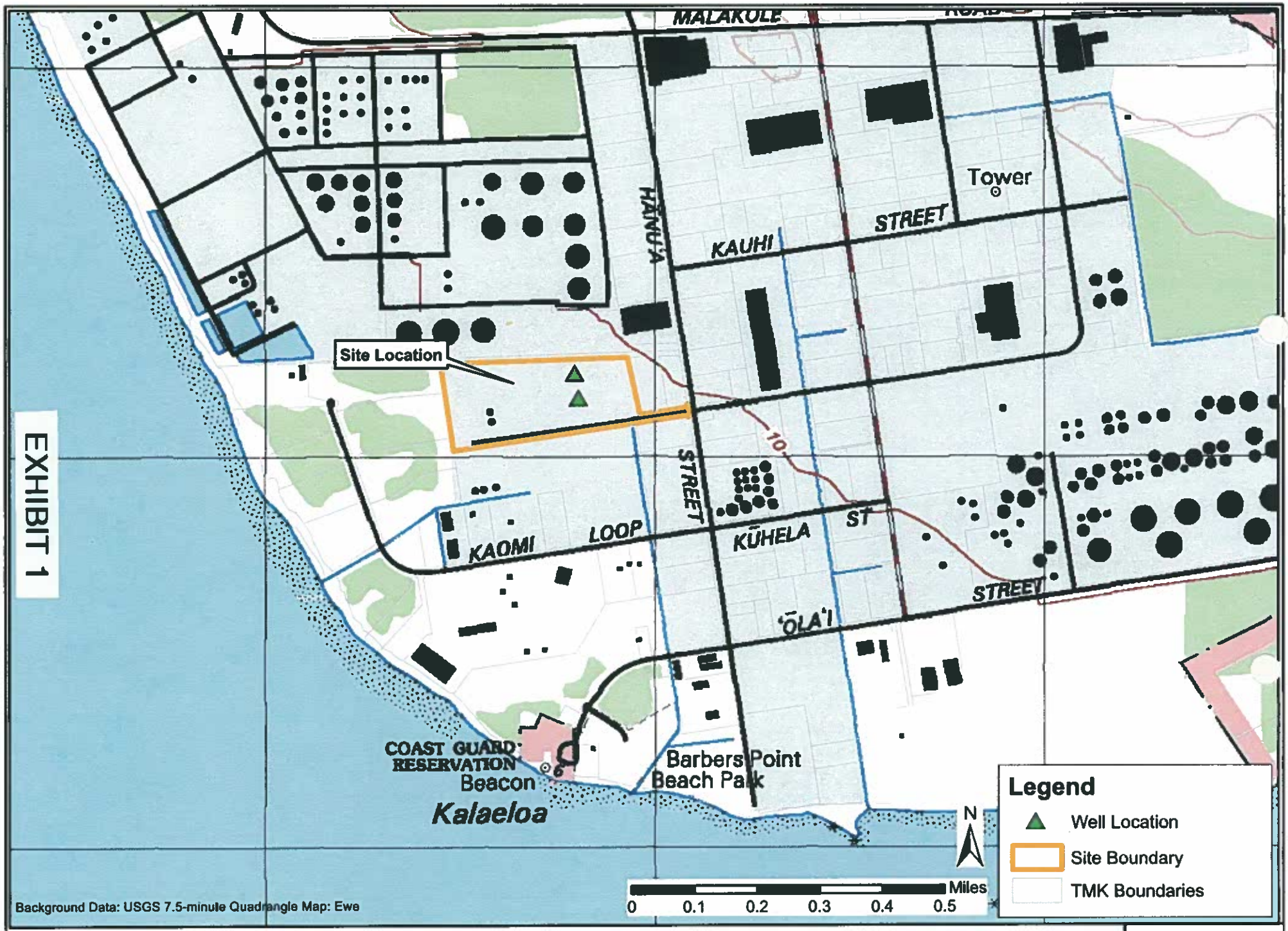
15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the **Malakole** Ground Water Management Area.

17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

18. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

19. Special conditions in the attached cover transmittal letter are incorporated herein by reference.



amec

Site Map

H-POWER Application for Ground Water Use Permit Modification.

FIGURE 1

H-POWER WUPA No. 863

Malakole Aquifer System / Ewa Caprock Aquifer
Wells, Well Status, and Water Uses

WELL_NO	WELL_NAME	OWNER_USER	INIT_CL	PUMP_MGD	USE
1705-01	Cates	Cates International, Inc.	17,161		UNU
1805-01	Barbers Point	Campbell Estate	932		UNU
1805-02	Barbers Point	Bhp Petroleum			UNU
1805-03	HIRI85FW-1	Tesoro Hawaii Corp	2,700	2.160	INDFP
1805-04	Kalaeloa PW-1	Kalaeloa L P	1,250	.475	INDEL
1805-05	Kalaeloa PW-2	Kalaeloa L P		.475	INDEL
1805-06	Kalaeloa PW-3	Kalaeloa L P		.475	INDEL
1805-07	Kalaeloa PW-4	Kalaeloa L P		.475	INDEL
1805-08	Kalaeloa PW-5	Kalaeloa L P			UNU
1805-09	Kalaeloa PW-6	Kalaeloa L P		1.253	INDEL
1805-10	Kalaeloa PW-7	Kalaeloa L P			UNU
1805-11	Kalaeloa PW-8	Kalaeloa L P			UNU
1805-12	Kalaeloa PW-9	Kalaeloa L P			UNU
1805-14	Kalaeloa Desalt 2	Honolulu BWS	18,600		UNU
1805-15	Kalaeloa Basalt	Honolulu BWS	18,500		UNU
1805-17	TSO-06-FW2	Tesoro Hawaii Corp			UNU
1805-18	TSO-06-FW3	Tesoro Hawaii Corp			UNU
1806-01	Barbers Point	Campbell Estate	4,630		UNU
1806-02	Barbers Point	Chevron Companies	7,160		ABNSLD
1806-03	Barbers Point	Haw Westrn St	9,050	1.584	ABNSLD
1806-04	Barbers Point	Haw Westrn St	3,020	1.440	ABNSLD
1806-05	Barbers Point	So Pipe&Casg			IND
1806-06	Acid Plt P-2083	Chevron Companies	13,600	1.929	INDFP
1806-07	Conoco Ref Obs 2	Dill-Conoco			OBS
1806-08	Conoco Ref Obs 1	Dill-Conoco			OBS
1806-09	Facility Maint 1	C&C, H-POWER Facility	17,950	2.088	INDEL
1806-10	Facility Maint 2	C&C, H-POWER Facility	17,950	2.088	INDEL
1806-11	AES Prod 1	AES Hawaii Inc	20,500	4.320	INDEL
1806-12	AES 1B	AES Hawaii Inc	17,100	4.320	INDEL
1806-13	AES 1C	AES Hawaii Inc	19,300	4.320	INDEL
1806-14	AES 1D	AES Hawaii Inc	19,700	4.320	INDEL
1806-15	HECO Tank Farm	HECO			INDEL
1806-19	Ewa Island Comm	Island Commodities Corp		.720	INDOTH
1806-20	Acid Plant	Chevron Companies		2.592	INDEL
1806-21	Acid Plant	Chevron Companies		2.592	INDEL
1807-01	Lpg Storage Area	Chevron Usa		.950	INDEL
1807-02	Lpg Storage Area	Chevron Usa		.950	INDEL
1807-03	Mauka-Makai St	Chevron Usa		.864	INDOTH
1807-04	Mauka-Makai St	Chevron Usa		.864	INDOTH
1905-02	Campbell Ind Pk	Campbell Estate	795		OTH
1905-05	Caprock 1	State DLNR-Engineering			UNU
1905-06	Caprock 1	Honolulu BWS			ABNSLD
1905-07	Caprock 2	Honolulu BWS			UNU
1905-09	Caprock 3	State DLNR-Engineering	0	1.123	UNU
1906-01	Ewa Beach	Campbell Estate	830		UNU
1906-02	Ewa Beach	Campbell Estate	764		UNU

EXHIBIT 2

H-POWER WUPA No. 863

Malakole Aquifer System / Ewa Caprock Aquifer
Wells, Well Status, and Water Uses

WELL_NO	WELL_NAME	OWNER_USER	INIT_CL	PUMP_MGD	USE
1906-03	Grace Pac C-3	Grace Pacific		2.232	ABNSLD
1906-04	Grace Pac C-2	Grace Pacific		2.232	ABNSLD
1906-05	Grace Pac B-1	Grace Pacific		.504	ABNSLD
1906-06	Grace Pac C-1	Grace Pacific		1.944	ABNSLD
1906-07	Hawaii Raceway Park	Campbell Estate	918	.288	OTH
1906-08	Barbers Pt. MW-1	State DOT-Harbors			OBS
1906-09	Barbers Pt. MW-2	State DOT-Harbors			ABNLOS
1906-10	Barbers Pt. MW-3	State DOT-Harbors			OBS
1906-11	HC Campbell Quar	Hawaiian Cement	3,280		UNU
1906-12	Ko Olina Salt 1		19,300		UNU
1907-01	Barbers Point	U S State Dept	2,770		ABNLOS
1907-02	Chevron Fire	Chevron Usa		2.196	INDFP
2006-18	Barbers Pt. MW-4	State Dot-Harb			OBS

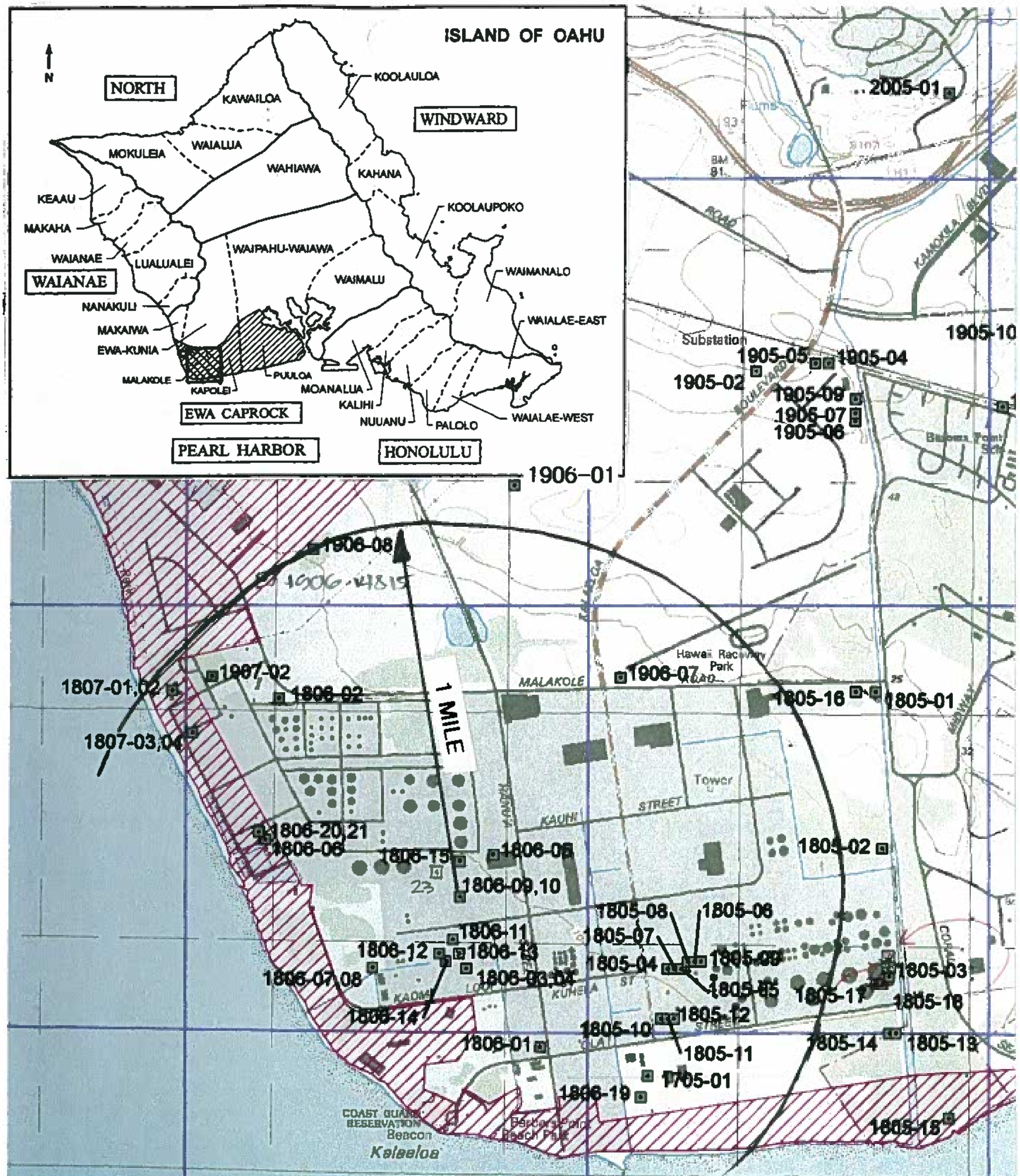

ISLAND OF OAHU
N
NORTH
WINDWARD
WAIANAE
EWA CAPROCK
PEARL HARBOR
HONOLULU
KOOLAULOA
KAWAILOA
MOKULEIA
WAIALUA
WAHIAWA
KAHANA
KEAAU
MAKAHA
KOOLAUPOKO
WAIANAE
LUALUALEI
WAIPAHU-WAIAWA
WAIMALU
WAIMANALO
NANAKULI
MAKAIWA
EWA-KUNIA
MALAKOLE
KAPOLEI
PUULOA
MOANALUA
KALIHI
NUUANU
PALOLO
WAIALAE-EAST
WAIALAE-WEST
2005-01
1905-10
Substation
1905-05
1905-04
1905-02
1905-09
1905-07
1905-06
1906-01
1906-08
1 MILE
1807-01,02
1907-02
1806-02
1807-03,04
1906-07
Hawaii Raceway Park
MALAKOLE
1805-16
1805-01
Tower
KAUHI
STREET
1806-20,21
1806-06
1806-15
1806-05
1805-02
1806-09,10
1805-08
1805-06
1805-07
1806-11
1806-12
1806-13
1805-04
1805-09
1805-03
1806-07,08
1805-05
1805-17
1805-18
1806-14
1805-12
1805-10
1806-01
1805-11
1805-14
1805-13
1705-01
1806-19
COAST GUARD RESERVATION
Beacon
Kalaeloa
1805-15

EXHIBIT 3

Aquifer System Area Water Use Permit Index *(total)*

ISLAND OF **OAHU**

Aquifer System Ground Water Management Area: **MALAKOLE**

Sustainable Yield =

WUP No	Approved	Applicant	Well No.	Well Name	WUP (mgd)	12-MAV (mgd)
425	5/14/1997	STATE DOT - HARBORS		BARBERS PT. HARBOR		
768	10/11/1985	Tesoro Hawaii Corp.	1805-03	HIRI185FW-1	0.000	N/R
163	4/18/1990	KALAELOA PARTNERS, L.P.	1805-04	KALAELOA 1	3.168	1.342 (12/08)
163	4/18/1990	KALAELOA PARTNERS, L.P.	1805-05	KALAELOA 2		-
163	4/18/1990	KALAELOA PARTNERS, L.P.	1805-06	KALAELOA 3		-
163	4/18/1990	KALAELOA PARTNERS, L.P.	1805-07	KALAELOA 4		-
163	4/18/1990	KALAELOA PARTNERS, L.P.	1805-08	KALAELOA 5		-
163	4/18/1990	KALAELOA PARTNERS, L.P.	1805-09	KALAELOA 6		-
163	9/15/1993	KALAELOA PARTNERS, L.P.	1805-10	KALAELOA 7		-
163	9/15/1993	KALAELOA PARTNERS, L.P.	1805-11	KALAELOA 8		-
163	9/15/1993	KALAELOA PARTNERS, L.P.	1805-12	KALAELOA 9		-
750	1/11/2006	VIP SANITATION, INC.	1805-16	VIP SANITATION	0.003	N/R
768	10/11/1985	Tesoro Hawaii Corp.	1805-17	TSO06FW-2		-
768	10/11/1985	Tesoro Hawaii Corp.	1805-18	TSO06FW-3		-
062	10/11/1985	HON RESOURCE RECOVRY VENT	1806-09	DPW 1	2.260	1.428
062	10/11/1985	HON RESOURCE RECOVRY VENT	1806-10	DPW 2		-
161	1/31/1990	AES HAWAII INC.	1806-11	AES 1	4.320	11.309 (12/07)
161	1/31/1990	AES HAWAII INC.	1806-12	AES 2	4.320	-
161	1/31/1990	AES HAWAII INC.	1806-13	AES 3	4.320	-
161	1/31/1990	AES HAWAII INC.	1806-14	AES 4	4.320	-
176	8/19/1992	HAWAIIAN ELECTRIC CO., INC.	1806-15	HECO COOLING	14.400	N/R
176	8/19/1992	HAWAIIAN ELECTRIC CO.	1806-16	HECO COOLING	0.000	N/R
176	8/19/1992	HAWAIIAN ELECTRIC CO.	1806-17	HECO COOLING	0.000	N/R
176	8/19/1992	HAWAIIAN ELECTRIC CO.	1806-18	HECO COOLING	0.000	N/R
453	12/18/1996	CHEVRON PRODUCTS CO.	1806-20	P-6109	2.000	2.192 (2/07)
453	12/18/1996	CHEVRON PRODUCTS CO.	1806-21	P-6109A		-
451	12/18/1996	CHEVRON PRODUCTS CO.	1807-01	P-2095	1.500	0.977 (12/07)
451	12/18/1996	CHEVRON PRODUCTS CO.	1807-02	P-2095A		-
452	12/18/1996	CHEVRON PRODUCTS CO.	1807-03	P-5219	0.100	0.001 (12/07)
452	12/18/1996	CHEVRON PRODUCTS CO.	1807-04	P-5219A		-
076	6/12/1987	STATE DLNR DOWALD	1905-05	EWA CAPROCK	0.500	N/R
068	3/27/1987	GRACE PACIFIC	1906-03	EWA BEACH	2.000	Ab/sealed 200
068	3/27/1987	GRACE PACIFIC	1906-04	EWA BEACH	0.000	Ab/sealed 200

EXHIBIT 4

WUP No	Approved	Applicant	Well No.	Well Name	WUP (mgd)	12-MAV (mgd)
080	3/29/1989	GRACE PACIFIC	1906-05	EWA BEACH	0.000	Ab/Sealed 2005
080	3/29/1989	GRACE PACIFIC	1906-06	EWA BEACH	0.000	Ab/Sealed 2005
166	2/13/1991	CHEVRON USA, INC.	1907-02	CHEVRON FIRE	0.000	N/R
		Summary for MALAKOLE (36 detail records)		**Totalling**	43.211	17.250
				Available		

Well ID:	Well Name	WUP MGD:	Beginning:	Ending:	
3-1806-009	Facility Maint 1	2.26	1/1/2004	11/30/2008	Compute 12-Month Moving Average

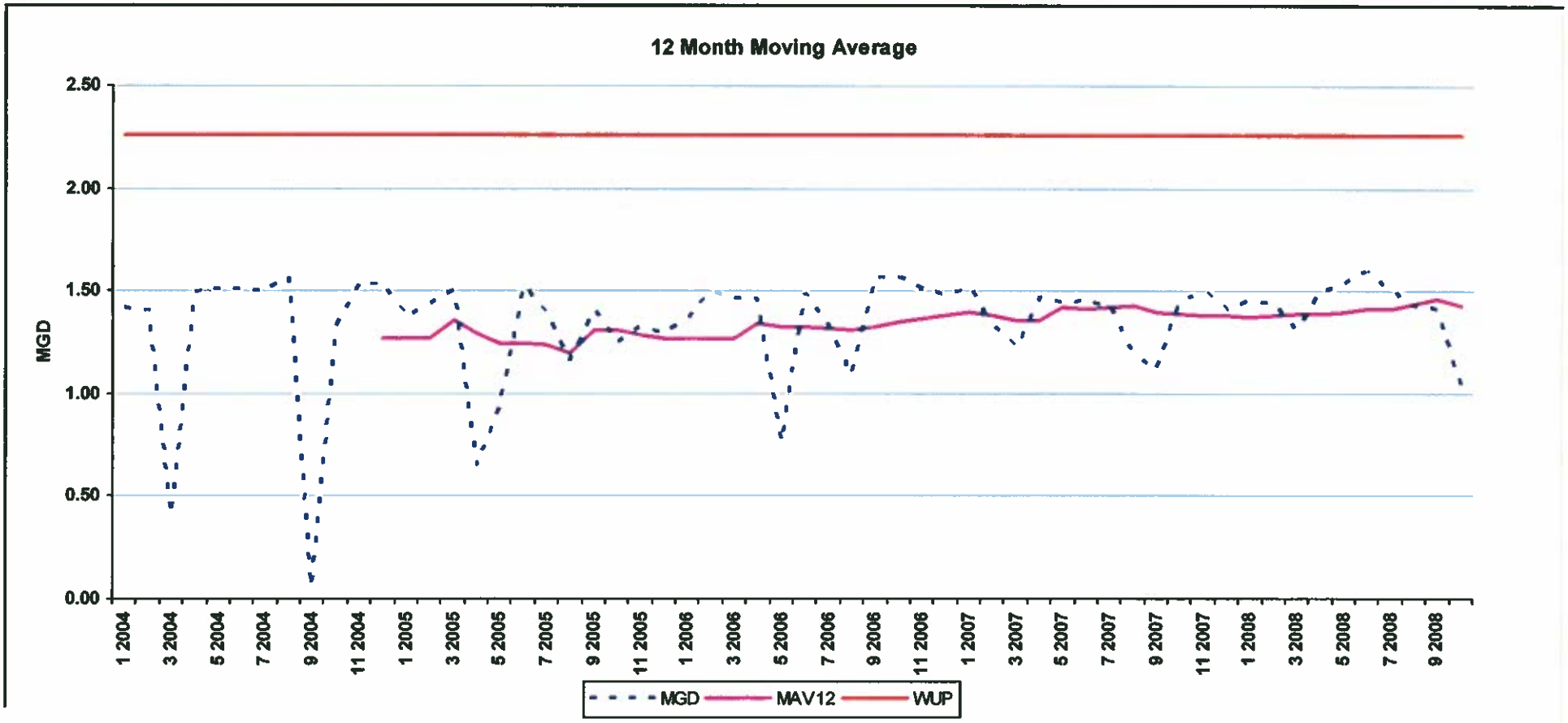


EXHIBIT 5